<u>REMARKS</u>

The Office examined claims 1-40, and rejected claims 29 and 35-40, but allowed the other claims. This paper requests entry of an amendment changing claim 29 to provide antecedent basis for some terms in claim 29 (although such should not be needed, because of the doctrine of inherency), and also changing claim 38 to correct obvious typographical errors, and requests reconsideration of claims 35-40.

<u>Changes to claim 29 in response to Rejection under 35 USC §112</u>

At section 2 of the Office action, claim 29 is rejected under 35 USC §112 as being indefinite because of not providing antecedent basis for three terms.

With this paper, claim 29 is changed to provide antecedent basis for "the sequence of time intervals" in line 10, and for "the time of receipt" in line 11. The Office also complains there is no antecedent basis for "the data signal" in line 11, but applicant respectfully points out that "a data signal" is recited in line 7, and that is the data signal referred to in line 11.

Applicant also respectfully submits that the changes to claim 29 by this paper are not needed, because the antecedent basis is inherent or reasonably ascertainable, and per the MPEP at 2173.05(e):

> … [T]he failure to provide explicit antecedent basis for terms does not always render a claim indefinite. If the scope of a claim would be reasonably ascertainable by those skilled in the art, then the claim is not indefinite. Ex parte Porter, 25 USPQ2d 1144, 1145 (Bd. Pat. App. & Inter. 1992) ("controlled stream of fluid" provided reasonable antecedent basis for "the controlled fluid"). Inherent components of elements recited have antecedent basis in the recitation of the components themselves. For example, the limitation "the outer surface of said sphere" would not require an antecedent recitation that the sphere has an outer surface. See Bose Corp. v. JBL, Inc., 274 F.3d 1354, 1359, 61 USPQ2d 1216, 1218-19 (Fed. Cir 2001) (holding that recitation of "an ellipse" provided antecedent

basis for "an ellipse having a major diameter" because "[t]here can be no dispute that mathematically an inherent characteristic of an ellipse is a major diameter").

The changes made here are thus made merely as a matter of form, and applicant respectfully submits the changes do not go to the merits of the application.  The changes are made merely to expedite prosecution.

In view of the changes to claim 29, applicant respectfully requests the rejection under 25 USC §112 be withdrawn.

Claim Rejections under 35 USC §102

Claims 35-40 are again rejected under 35 USC §102(a) as being anticipated by Terry *et al.* (US 2004/0004954).  Claims 36-40 depend from claim 35.

With regard to claim 35, the Office responds to applicant's arguments that Terry teaches relying on an additional bit to distinguish the CQI and TSN fields by asserting (as applicant understands the examiner) that the additional bit is in fact a part of the CQI and TSN fields, and that because it is present and different for the CQI and TSN fields, these fields are different, and so Terry teaches the limitation recited in claim 35 that a second predetermined procedure includes transmitting one or more indication symbols each differing from each of the possible payload symbols.

Applicant respectfully submits that as to whether Terry the additional bit is part of the CQI and TSN fields or separate, Terry says at par. [0055] that:

> [0055] Referring to a second example in FIG. 8, the first timeslot of a TTI is either for ACK/NACK or is empty. The second and the third timeslots are used either for the CQI field or for the TSN field. In this case, the Node B needs to be pre-informed of the positions of the TTIs used for the TSN field and the TTIs used for ACK/NACK and the CQI field, or one

bit is required to differentiate between the TTIs for different
purposes.

So the additional bit is used to distinguish not only CQI from TSN,
but also from ACK/NACK. Applicant respectfully submits that one
skilled in the art would therefore understand Terry as teaching that
an additional bit is transmitted in each TTI to provide the required
distinctions, and the additional bit is not part of the ACK/NACK,
CQI or TSN fields, but is instead merely transmitted in the same TTI
as the fields. Certainly an additional bit is not added to an
ACK/NACK field.

Further in respect to claim 35, applicant respectfully submits
that the CQI and TSN, which the Office has likened to the payload
symbols and indication symbols (respectively) recited in claim 35,
cannot fairly be asserted to be "symbols." These are fields
conveying information about a transmission by their values or
content. A "symbol," per e.g. The Oxford Dictionary of Current
English, 2nd edition, is "a mark, sign, etc. representing an object,
idea, function or process." It is commonly understood that a symbol
is therefore used in place of an explicit expression of an idea,
function, or process. And see for example Wikipedia
(http://en.wikipedia.org/wiki/Symbol), providing: "A symbol, in its
basic sense, is a representational token for a concept or quantity;
i.e. an idea, object, concept, quality, etc. In more psychological
and philosophical terms, all concepts are symbolic in nature and
representations for these concepts are simply token artifacts that
are allegorical to (but do not directly codify) a symbolic meaning."
Thus, for example, a red light is generally understood to be a
symbol, but a message from a receptionist in an office to someone
working in the office telling them they have a call on line two
would certainly not be understood to be a "symbol." Applicant
respectfully submits that the TSN and CQI, which are an explicit
representation of specific information and are not used in place of

any other expression of the information, are in the latter category, that they are not fairly asserted to be "symbols."

With regard to claim 37, the invention there includes as a limitation that in the first predetermined procedure the payload symbols (likened to CQI in the Office action) are selected from a predetermined set of two different possible payload symbols. The Office asserts that because the CQI field has a "fixed size," the "[CQI] values are selected from a predetermined set of possible symbols." But the invention in claim 37 restricts the payload symbols as being from a set of only two symbols, and using a field of any finite length, if only two CQI field values are possible, the CQI could only communicate two different values, which would not be sufficient for the purposes of Terry. At par. [0049] Terry explains:

> [0049] The CQI field is used by the UE to periodically feed back the channel quality to the transmitting side (i.e., the Node B). … The CQI field is transmitted in two timeslots and the repetition periods of the CQI field may vary.

If two time slots are needed to convey a CQI value, applicant respectfully submits that the CQI must inherently be used to convey more than two possible values. (At par. [0050] Terry notes that the TSN is 9 bits, and is conveyed in two time slots, and so a reasonable inference is that the CQI is more or less nine bits, irrespective of any additional bit, and so could convey up to $2^9=512$ different possible values.) Thus, the limitations of claim 37 cannot fairly be asserted as taught or suggested by Terry.

With regard to claim 38, the invention there includes as a limitation that the payload symbols and the one or more indication symbols are each sequences of equal numbers of bits, and at least one of the payload symbols is further separated in code distance from the one or more indication symbols than any of the other payload symbols. The Office asserts that Figs. 7 and 8 disclose

that the CQI and TSN are of equal length, and that in the embodiment
of Terry where one bit is used to differentiate the TSN from the
CQI, "it is clear … that one of the payload (CQI) symbols will be
further away on average from the indication (TSN) symbols." But the
claim recites that "at least *one of the payload symbols* is further
separated *in code distance* from the one or more indication symbols
*than any of the other payload symbols.*" In the embodiment of Terry
referred to by the Office, it is the one bit used to differentiate
TSN from CQI that is relied on. The TSN and CQI bits can otherwise
be identical. There is simply no teaching of taking care that the
code distance of the TSN and CQI is large. If the single bit relied
on is altered in transmission, what was a CQI will be taken as a
TSN, or vice versa. Further, it is the code distance from the
indication symbols of *at least one of the payload symbols compared
to that of the other payload symbols.* So the single bit used by
Terry to differentiate the CQI from the TSN is irrelevant in respect
to the limitation recited in claim 38. Also, Figs. 7 and 8 merely
show that two time slots are used to convey both a CQI and a TSN.
But Terry teaches the TSN is 9 bits, as mentioned above, and so the
two timeslots shown in Figs. 7 and 8 used for conveying either a CQI
or TSN must also be used to convey other than the CQI or TSN
(because a timeslot cannot convey 4.5 bits). Thus, it can at most
be said that Terry teaches that the CQI and TSN *could be* the same
length.

For the reasons given for claims 35, 37 and 38, and in view of
the dependencies of the claims not argued, applicant respectfully
requests that the rejections under 35 USC §102(e) of claims 35-40 be
reconsidered and withdrawn.

## Conclusion

It is believed that all of the claims of the application are in condition for allowance and their passage to issue is earnestly solicited.

23 Feb. 2006
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